

# **Crew Compartment Recommendations**

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# Handhold (H/H)vs. Straps

- Recommend handholds (H/H) be utilized *in lieu of straps*  
Rationale: straps are O.K. for pulling on, but have little stability to allow you to control body positioning through your wrist/arms. Straps can move out of position in zero gravity, launch vibration, or during water landing. Fixed or semi-fixed H/H help in exerting this body control. Also, H/H's allow you to come "up" or closer towards their structural tie-in, whereas straps hang down away from structure at one G, not allowing you to come up closer to structure unless you "climb up the strap". It is especially important in the hatch area that the egress area not be blocked and be as open as possible.

# Handhold (H/H) vs. Straps

- Recommended H/H locations

1) At main hatch, foldable rigid handhold(H/H). Apollo H/H had two positions , stowed & extended. A lever at the end of the H/H releases the detent allowing deployment or folding. H/H use allows more free hatchway envelope for aided egress or if hatchway is partially blocked after landing, etc... Note: larger photo in background charts



# Handhold vs. Straps

- 2) Hand straps on exterior periphery of Console similar to straps used in Apollo Command Module (CM) would be helpful. Straps used in Apollo would lay against console, until pulled out-they had slots at each end that slid through structural pin. (See enclosed photograph) They were made of Viton material and had reinforced interiors.





### 3. Crew Couches

- Need foot restraint on foot pan to restrain crews feet during launch and landing impact
- Recommend consider Apollo type heel clip on suit and couch foot pan



# Other Comments

- 4). Mirror(s). When crew visibility limited, suggest addition of mirror(s). Could be on articulated arm like Apollo (see photo or possibly on crew wrist.



# Other Comments

- 5) Consider recessing abort handles making them deployable, then ready for activation
- 6) Verify that push buttons are acceptable for suited crewmember, including if they need to be operated during launch vibrations.

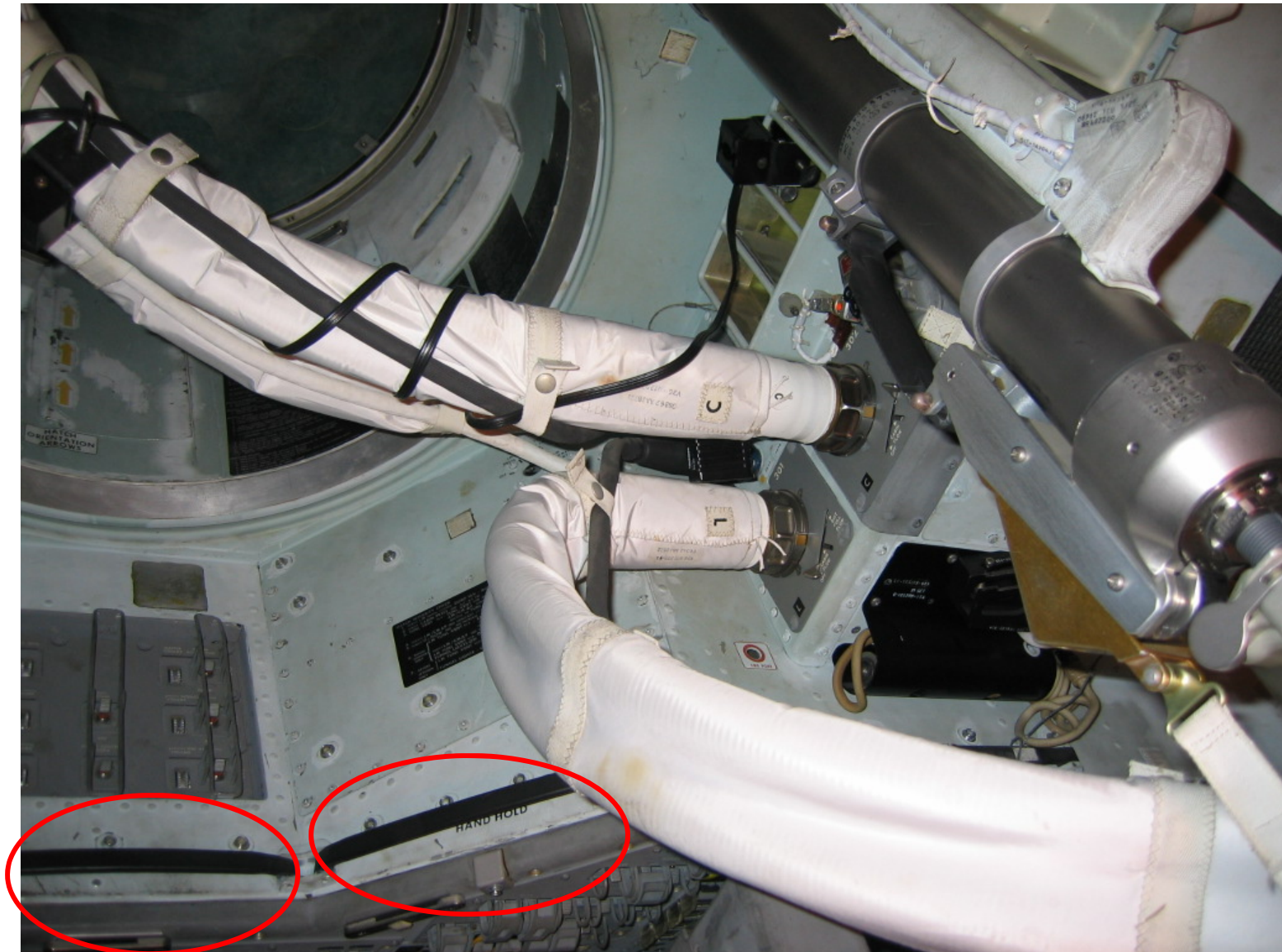


# Backup Photographs

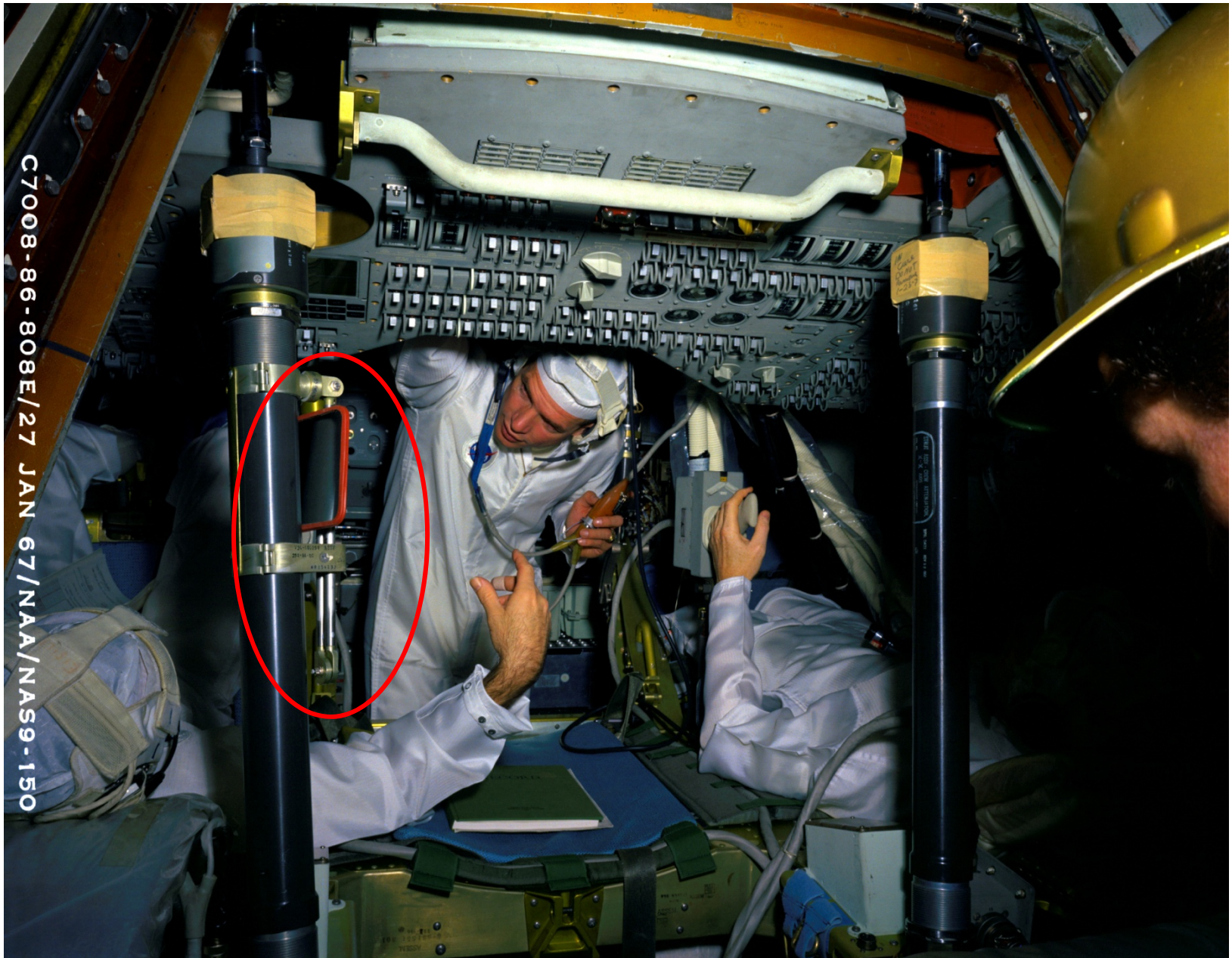




## Apollo MDC Flex Handholds







C7008-86-808E/27 JAN 67/NAA/NAS9-150